

**New Hampshire Department of Transportation
Bureau of Materials & Research**

Qualified Products List – Qualification Criteria

Section 593 – Geotextiles

Specification

- Geotextile shall be a product tested under the AASHTO National Transportation Product Evaluation Program (NTPEP) and included on the Qualified Products List for the Application, Strength Class, and Structure specified.
- Geotextiles shall conform to the applicable sections of AASHTO M 288 as outlined in 593 and referenced below.
- Fibers used in the manufacture of geotextiles, and threads used in joining geotextiles by sewing, shall meet the requirements of Section 3.1 and Section A1.4.1 of AASHTO M 288.
- Geotextile shall exhibit an ultraviolet stability (retained strength) of at least 50% after 500 hours of exposure, measured in accordance with ASTM D 4355.

Required Submissions

- Completed QPL Product Submittal Form. The submitted form must be completely filled out and must be the current version of the form. The QPL Product Submittal Form can be obtained at www.nh.gov/dot/research.
- Products will be considered only for those Application(s) recommended by the manufacturer in the submittal.
- Certified minimum average roll values (MARV) demonstrating that the geotextile meets all specification requirements.

Qualification Criteria

- Geotextiles that have not been tested through NTPEP will be rejected.
- The Department will compare the certified MARV values for conformance with the specification.
- The Department will compare the published NTPEP test results for conformance with the specification. Note that NTPEP requires that geotextiles be resubmitted for testing on a regular (currently three-year) basis. Expiration of NTPEP test results may result in disqualification of a geotextile.
- Table 1 includes the basic Strength Classes of geotextile and the corresponding qualification criteria. Required strength is a function of fabric elongation, as measured in accordance with ASTM D 4632.
- Table 2 includes the basic Applications for geotextile and the corresponding permittivity and apparent opening size qualification criteria.
- Only non-woven geotextiles will be qualified for Applications 1 and 4. Only geotextiles meeting Strength Class 0, 1 or 2 will be qualified for Application 4.
- Both woven and non-woven geotextiles may be qualified for Applications 2 and 3.
- Woven geotextiles that are made of both slit filament and monofilament will be evaluated as slit filament products for the purpose of qualification.

Table 1 - Geotextile Strength Property Requirements								
Strength Class	Grab Tensile Strength ASTM D 4632 N (lb)		Trapezoidal Tear Strength ASTM D 4533 N (lb)		Puncture Strength ASTM D 4833 N (lb)		Puncture Strength ASTM D 6241 N (lb)	
	Elongation < 50%	Elongation ≥ 50%	Elongation < 50%	Elongation ≥ 50%	Elongation < 50%	Elongation ≥ 50%	Elongation < 50%	Elongation ≥ 50%
0 Ex. High Strength	1670 (375)	1670 (375)	600 (135)	600 (135)	1000 (225)	1000 (225)	5500 (1237)	5500 (1237)
1 High Strength	1400 (315)	900 (202)	500 (112)	350 (79)	500 (112)	350 (79)	2750 (618)	1925 (433)
2 Med. Strength	1100 (247)	700 (157)	400 (90)*	250 (56)	400 (90)	250 (56)	2200 (495)	1375 (309)
3 Low Strength	800 (180)	500 (112)	300 (67)	180 (40)	300 (67)	180 (40)	1650 (371)	990 (223)

Table 2 - Permittivity and Apparent Opening Size (AOS) Requirements		
Application	Required Geotextile Property	
	Permittivity ASTM D 4491 (sec ⁻¹)	Apparent Opening Size (AOS) ASTM D 4751 (mm)
1 - Subsurface Drainage	0.70 min.	0.22 max.
2 - Separation	0.05 min.	0.43 max.
3 - Stabilization	0.05 min.	0.43 max.
4 - Permanent Erosion Control	0.70 min.	0.22 max.
*The required Class 2 tear strength for woven monofilament is 250N (56 lb.)		

Approved by: *Alan D. Rawson*
Bureau Administrator

The Department continues to evaluate its qualification criteria as well as products that have been qualified against them, and reserves the right to revise the criteria and/or withdraw product qualification at any time for any reason without notice.